that no Clock-maker that doth not understand how to apply the force of a spring to the motion of a Clock.

A New Engin to make Linen-Cloth without the help of an Artificer, presented to the Royal Academy, by Monsieur de Gennes, *an Officer belonging to the Sea. Extracted out of the Journal de* Scavans

THis Engin is no other than a Mill, to which are apply'd all the parts of a Weavers ordinary Loom.

This Mill is composed of four principal parts, that is to say, the Serpent *A A*, two Footsteps or Treddles *B B*, one Clapper *C*, and two Arms *DDDD*.

The Serpent or Iron Barr *A A* has two Elbows *E E*, whereto the ends of the Ropes are fix'd that raise and put down the Foot steps *B B*. *F F* are two fourths of a Circle, that successively rest upon two Arches or Bows of Iron *G G*, which are above the Clapper *C*. to raise it. *H H* are two Teeth of Iron, added to the Serpent making an Angle of 25 degrees with *F F* and *K K*, which serve to put down a *Bascule* or *Sweep* which is in the Arm that carries the Shuttle. The Footsteps or Treddles differ in nothing from those which are usually made use of, only the Cords that hold them pendent from the ground are fixed in the Elbows of the Serpent, which in turning raises and puts them down by the help of two little pullies, upon which the Ropes turn.

The Clapper is supported between two Pillars with a Rope double twisted, which makes it to make a kind of a Spring, and causes it naturally to give forwards to beat the Cloth.

L M is one of the Arms which pass freely into the Canal or Pipe *N N*, supported by four Pillars of Wood *OOOO*. The Motion of it proceeds from the following Parts. *P Q* is a *Bascule* which, though unequally divided by its supporter *R*, is yet in *Equilibrio*, the end *P R* being made to weigh exactly as much as *R Q*.

At the Extremity of this *Bascule* is ty'd a Cord which passes through the Pully *S*, and terminates at the Extremity of the Arm, where it is fastned to a little *Bowle M*. At the other Extremity of the same Arm that is to say towards *L*, is

 also

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alſo faſtned underneath a Cord, which paſſes through the Pulley *T*, and which carries the weights V.

At the ſame end of the Arm is added a little *Niche Z*, about the bigneſs of half the Shuttle: then over a little Barr *X Y*, which paſſes athwart the Arm, there are two other little peices of Wood having at the end of them two teeth, which enter into the *Niche Z* through two holes which are there of the one ſide and t'other.

To the ends of theſe little peices of Wood there is a little bow of whale-bone or Steel, which keeps the two ends aſunder, and forces the teeth, which are at the other end, to enter into the *Niche*, before the ſaid peices can themſelves. At the Points 11. are two Ropes, that paſs through the pullies 22. faſtned to the Pillars 0. 3. 0. 4. and have each of them a little weight at the end big enough to keep it from paſſing through a little *Bowl* which is under each Pulley.

This Arm thus diſpoſed goes and comes in the hole *N N* in the following manner. One Tooth of the Serpent already deſcribed, ſtrikes upon the Extremity of the *Baſcule P Q*, and ſo cauſes the end *Q* to riſe up, which drawing the Cord faſtned to the Point *P M*, makes the Arm *L M* to advance forward. But when afterwards the tooth of the Serpent is come forth again, then the Weight *V* ty'd to the other end of the ſame Arm by a Cord, that paſſes through the Pulley *T*, forces the ſaid Arm by its own Weight to return again.

When the Arm *L M* is in its ordinary place, the 2 little pieces of Wood, into which enters the Bar *X Y*, encloſe the Shuttle by means of the Whale bone Spring. But when the ſaid Arm approaches the other oppoſite Arm, then the cords ty'd to the point 11. being a little too ſhort, and the Weight which is at the end of them not being able to paſs through, the Spring gives way a little, and ſo the Shuttle is no longer encloſed by the Arm which carries it, but is wholly received and graſped by the other; which likewiſe in its turn delivers it back again, in the ſame manner.

The Motion of the whole Machine is made at the rate as you move the handle of the Serpent, for then the Arms cauſe the threads to open, and immediately one of the Arms begins to ſlide in towards the oppoſite Arm, to which it carries

carries the Shuttle and retires, immediately. At the ſame time one of the Quarters of a Circle, which held the Clapper elevated, forſakes it, and leaves it to flap, and then the oppoſite Quarter of a Circle elevating it ſelf, the other Elbow changes the threads, and the other Arm retires, and ſo ſucceſſively.

The advantages that may be drawn from this Engin above the ordinary Looms to make Linen Cloth are theſe; 1. that one Mill alone will ſet 10. or 12. of theſe Looms at work. The Author has alſo a way to ſtop one, for the tying a knot in any thread, while the reſt go. 2. You may make the Cloth of what breadth you pleaſe, or at leaſt much broader than any which hath been hitherto made, in regard the Arms will play to what extent you deſire. 3. There will be fewer Knots in the Cloth, ſince the threads will not break ſo faſt as in other Looms, becauſe the Shuttle, that breaks the greateſt part, can never touch them. In ſhort, the Work will be carried on quicker and at leſs charge, in regard that inſtead of ſeveral work-folks, which are required in making of very large Clothes, one boy will ſerve to tie the threads of ſeveral Looms as faſt as they break, and to order the Quills about the Shuttle,

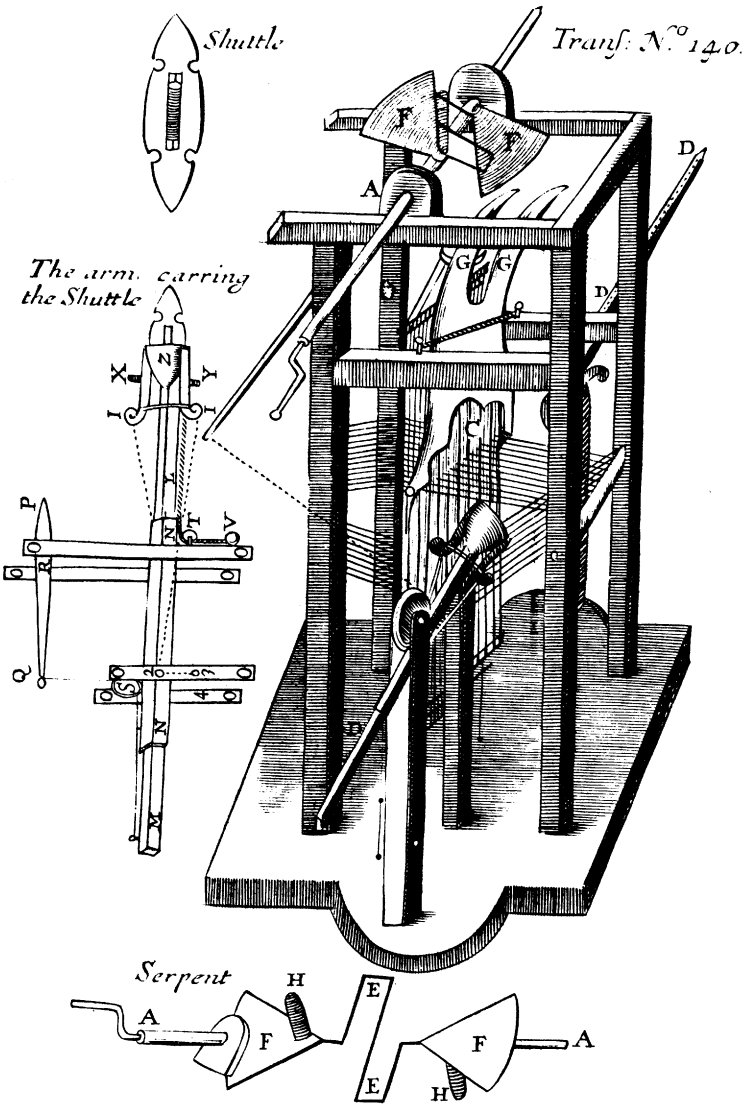
The Author hath alſo an eaſy way ſo to order it, that the Cloth ſhall give way of it ſelf, as faſt as it is made.

A Relation of a Worm Voided by Urine; Communicated by Mr. Ent: *to whom it was ſent by Mr.* Matthew Milford.

THe Worm when I voyded it, which was at the ſecond Urine, was then alive. It was Snake-headed, of indifferent ſubſtance in the middle, and ſmall at the tail. In length above half a yard. I was very ill before it came from me, and have ever ſince urin'd a kind of blood.

This Relation is here ſet down in the Patients own words. 'Tis moſt probable he had had a Suppreſſion of Urine for ſome time, at the firſt making whereof the Worm was Voided from one of the Kidneys (wherein it was bred) into the Bladder; and at the ſecond, from thence into the Pot.

The Worm being dead and dry, was of a dull red colour, and in thickneſs about the 12th. of an Inch.


Shuttle
Transf: N.° 140.
The arm carring the Shuttle
Serpent
A
B
C
D
E
F
G
H
I
K
L
M
N
O
P
Q
R
S
T
V
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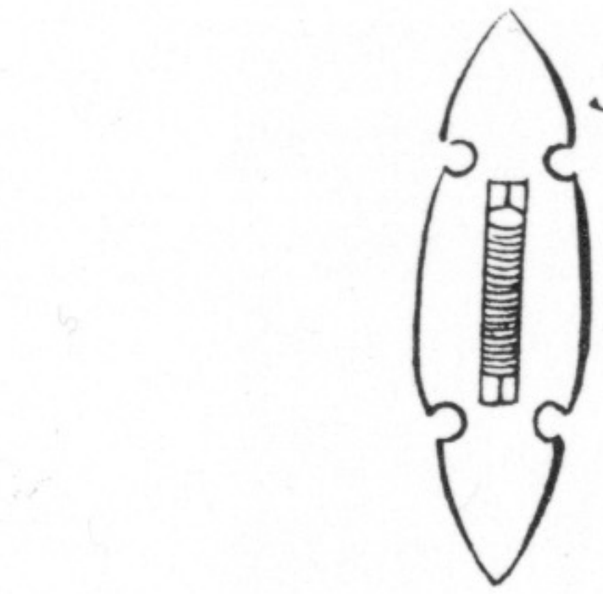
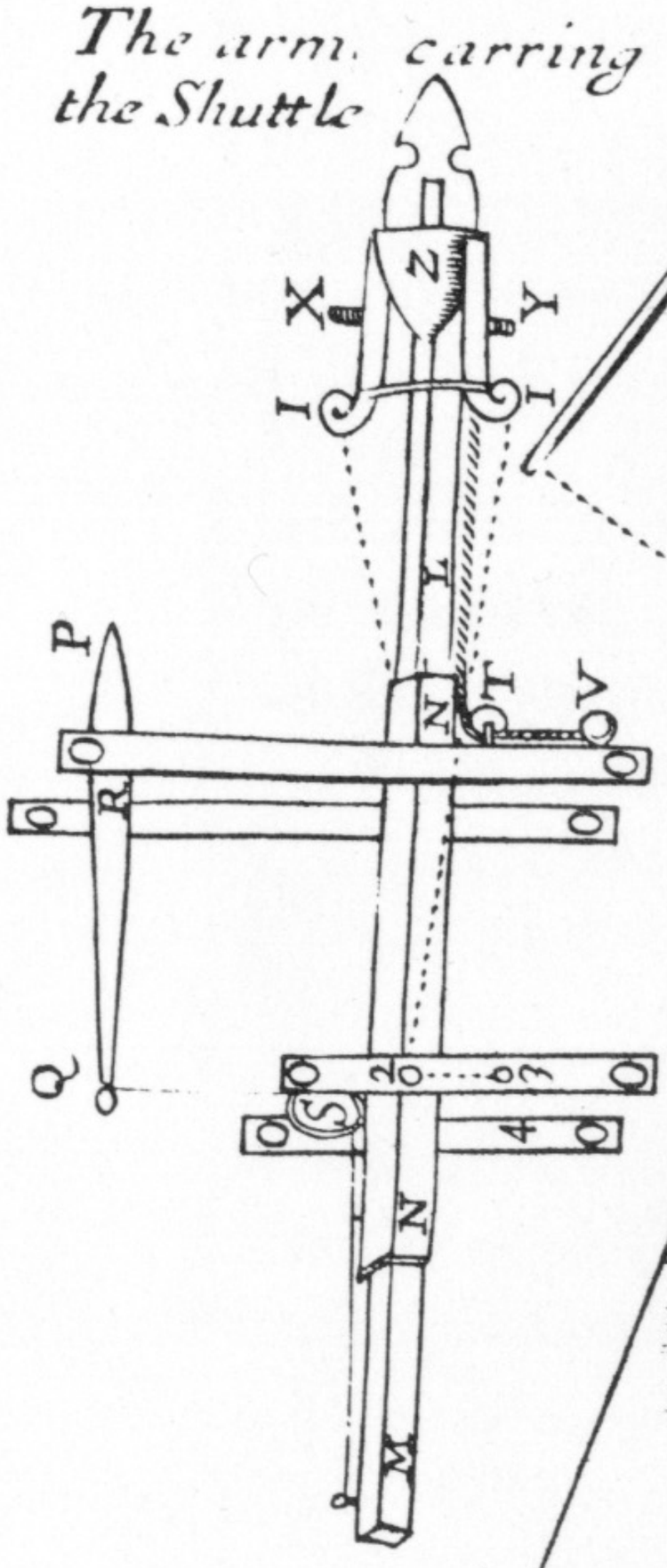
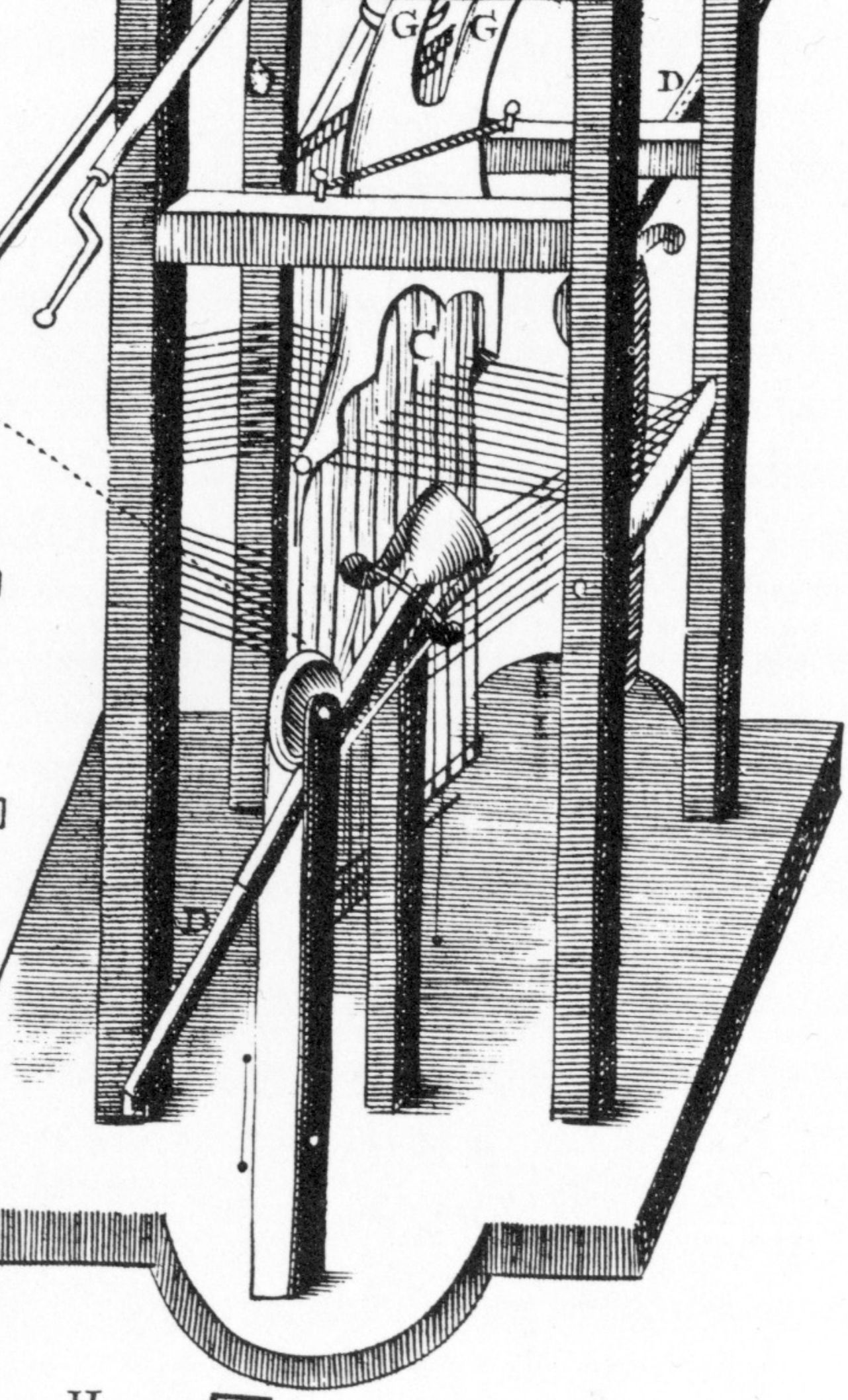
Shuttle

Transf: N.° 140.



The arm. carring the Shuttle





Serpent